Serial No.: 10/631,215

PATENT APPLICATION
Docket No.: NC 84,952

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) An apparatus for creating a deposit of a material of interest on a substrate, the apparatus comprising

a first laser, wherein the first laser is a pulsed laser,

a second laser,

a receiving substrate, and

a target substrate comprising a laser-transparent support having a back surface and a front surface, wherein the front surface has a coating that comprises a source material, wherein the source material is a material that can be transformed into the material of interest,

means for positioning the first laser in relation to the target substrate so that pulsed laser energy can be directed through the back surface of the target substrate and through the laser-transparent support to strike the coating at a defined target location with sufficient energy to cause the source material to be removed from the surface of the support at the defined target location,

means for positioning the receiving substrate in a spaced relation to the target substrate so that the source material can migrate from the space between the receiving substrate and the target substrate and can be deposited at a defined receiving location on the receiving substrate, and

means for positioning the second laser so that laser energy can strike the source material that is deposited on the receiving substrate with sufficient energy to transform the source material into the material of interest,

wherein the first laser and the second laser are copropagating and coaxial ~~or coaxial~~.

2. (cancelled)

3. (currently amended) The apparatus of Claim 1 ~~Claim 2~~ further including shuttering means wherein the first laser or the second laser can be selected.

4. (original) The apparatus of Claim 1 wherein the source material is a homogeneous mixture of an organometallic compound and a metal powder.

5. (original) The apparatus of Claim 1 wherein the source material is a organometallic/metal powder combination selected from the group consisting of

silver I 2,4-pentanedionate/silver;
silver neodecanoate/silver;
platinum 2,4-pentanedionate/platinum;
indium 2,4-pentanedionate/indium; copper II 2,4-pentanedionate/copper; and
indium acetylacetonate/indium.

6. (original) The apparatus of Claim 1 wherein the source material is a homogeneous mixture of a hydrated metal alkoxide and a metal powder.

7. (original) The apparatus of Claim 1 wherein the source material is a homogeneous mixture of an organometallic compound and an inorganic oxide powder.

8. (original) The apparatus of Claim 1 wherein the source material is a mixture of a hydrated inorganic alkoxide and an inorganic oxide powder.

9. (original) The apparatus of Claim I wherein the source material is a mixture of aluminum isopropoxide and aluminum oxide powder.

10. (original) The apparatus of Claim 1 wherein the source material is an inorganic alkoxide/inorganic oxide mixture selected from the group consisting of barium titanium ethylhexano-isopropoxide/barium titanate powder and strontium titanium isopropoxide/strontium titanate powder.

11. (original) The apparatus of Claim 1 wherein the source material is a mixture of one or more metal organic compounds.

12. (original) The apparatus of Claim 1 wherein the source material is a mixture of one or more hydrated metal alkoxides.

13. (original) The apparatus of Claim 1 wherein the first laser is a pulsed UV laser and the second laser is an IR laser.

14. (original) The apparatus of Claim I further including means to maintain the receiving substrate at a constant temperature between -50 and 300°C.

15-26. (cancelled)